

*Invited speaker:*

## **Agneta Gulz**

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*Lecture Title:*

# **Why Cognitive Science is Crucial for the Future of Sweden as a Nation of Knowledge**

### **Abstract:**

School results in math keep dropping in Sweden. This is worrying. Math skills correlate strongly with how well students accomplish school overall.

Good news: There is a solution. But not where politicians think. It is not "calculation-guarantee in school" or "more math lessons in primary school".

The solution lies in preschool and in a novel generation of digital play-&-learn-games.

Today there is an abundance of commercial, self-acclaimed educational early math games. But researchers have found the pedagogic quality of these games wanting. For one thing, most "learning games" are in essence "testing games".

But, it is possible to develop powerful educational games, that build on validated theories and models from the cognitive and educational sciences and use crucial elements such as adaptive instruction and rich, informative feedback.

In the talk I will do two things:

1. Explain why this kind of venture is crucial for Sweden as a "Nation of Knowledge". (We must help those children who have no learning problems but due to weak exposure are disadvantaged when they get to school, and continue to fall behind all through school. We can do this via powerful play-&-learn-games.)
2. Depending on audience interests, go into aspects of: research results from intervention studies; design issues; how to build these games, etc.